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CLAIMS

What is claimed is:

1. A flight deck display system comprising:

a display having a display screen for graphical display of data,

10 a graphics processor for receiving terrain data from at least a terrain data base and weather data from a weather data source and for converting the received data into a single data stream to provide an input data stream to the display screen,

the display displaying the weather data on one portion of the display screen and displaying the terrain data on a second portion of the display screen,

15 the weather data being displayed as a two-dimensional graphic and the terrain data being displayed as a three dimensional graphic.

2. A flight deck display system as set forth in Claim 1 wherein the terrain data is displayed as an out the window display graphic.

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3. A flight deck display system as set forth in Claim 1 wherein the terrain data is displayed relative to the altitude of an aircraft.

4. A flight deck display system as set forth in Claim 2 wherein the terrain data is displayed relative to the altitude of an aircraft.

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5. A flight deck display system as set forth in Claim 1 wherein the weather data and the terrain data represented on the display are scaled such that the displays of the data are

- 5 dimensionally juxtaposed to allow rapid recognition of the data by a user of the display system.

6. A flight deck display system as set forth in Claim 5 wherein the terrain data is displayed as an out the window display graphic.

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7. A flight deck display system in an aircraft comprising:

a display having a display screen for graphical display of data,

a terrain data base,

a weather sensor,

15 a source for providing data representing the position, heading and velocity of the aircraft, and

a source of terrain avoidance warning data;

a graphics processor for receiving terrain data from the terrain data base, weather data from the weather sensor, position, heading, and velocity data from the source of position,

20 heading and velocity data, and terrain avoidance warning data from the source of terrain avoidance warning data, and for converting the received data into a data stream to provide an input data stream to the display screen,

the display simultaneously displaying the data on display screen such that the weather data is displayed primarily as a two-dimensional graphic and the terrain data is displayed

25 primarily as a three dimensional graphic.

8. A flight deck display system as set forth in Claim 7 wherein the terrain data is displayed as an out the window display graphic.

5           9.     A flight deck display system as set forth in Claim 7 wherein the terrain data is  
displayed relative to the altitude of an aircraft.

10           10.    A flight deck display system as set forth in Claim 8 wherein the terrain data is  
displayed relative to the altitude of the aircraft.

11           11.    A flight deck display system as set forth in Claim 7 wherein the weather data  
and the terrain data represented on the display are scaled such that the displays of the data are  
dimensionally juxtaposed to allow rapid recognition of the data by a user of the display  
system.

15           12.    A flight deck display system as set forth in Claim 10 wherein the terrain data is  
displayed as an out the window display graphic.

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13. A flight deck display system for use in an aircraft comprising:

a display having a display screen for graphical display of data,

a graphics processor for receiving terrain data from at least a terrain data base and weather data from a weather sensor and for converting the received data into a single data stream to provide an input data stream to the display screen,

the display displaying the weather data on one portion of the display screen and displaying the terrain data on a second portion of the display screen,

the weather data being displayed in a lateral display format and terrain data being displayed as an out-the-window view.

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14. A flight deck display system as set forth in Claim 13 wherein the terrain display is represented in colors to show features of the terrain relative to the altitude of the aircraft.

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15. A flight deck display system as set forth in Claim 13 wherein the weather display is represented in colors to show features of the weather relative to the severity of the weather.

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16. A flight deck display system as set forth in claim 13 wherein terrain features are displayed in a color format in which terrain features substantially below the altitude of the aircraft are colored green, terrain features at substantially the altitude of the aircraft are colored yellow, and terrain features at or above the altitude of the aircraft are colored red.

5           17.    A method for simultaneously displaying terrain and weather data on a display,  
          comprising;

          providing a graphics processor for receiving terrain data from at least a terrain data  
base and weather data from a weather data source and for converting the received data into a  
single data stream to provide an input data stream to the display screen,

10           the display displaying the weather data on one portion of a display screen and  
displaying the terrain data on a second portion of the display screen,

          the weather data being displayed as a two-dimensional graphic and the terrain data  
being displayed as a three dimensional graphic.

15           18.    A method as set forth in Claim 17 wherein the terrain data is displayed as an  
out the window display graphic.

          19.    A method as set forth in Claim 17 wherein the terrain data is displayed relative  
to the altitude of an aircraft.

20           20.    A method as set forth in Claim 18 wherein the terrain data is displayed relative  
to the altitude of an aircraft.